

CLAIM SUMMARY DOCUMENT

Please cancel claims 1-11 and 19-34 without prejudice of or disclaimer thereto, and please amend claims 12-18 and 35-37 as set forth below. Also add new claims 38-41.

Claims 1-11 (Canceled)

12. (Currently Amended) ~~Use according to Claim 11~~ The method of claim 38, wherein all the amino acids of the compound are D-isomers.

13. (Currently Amended) ~~Use according to Claim 9~~ The method of claim 38, wherein Y' is Lys.

14. (Currently Amended) ~~Use according to Claim 13~~ The method of claim 38, wherein Y' is Lys and Z' is Phe.

C | 15. (Currently Amended) ~~Use according to Claim 11~~ The method of claim 38, wherein Y' is Phe.

16. (Currently Amended) ~~Use according to Claim 11~~ The method of claim 38, wherein X' is Val-Val.

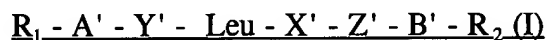
17. (Currently Amended) ~~Use according to Claim 11~~ The method of claim 38, wherein R₁ is acetyl.

18. (Currently Amended) ~~Use according to Claim 11~~ The method of claim

C1
C02
38, wherein R₁ is H or R₂ is H.

Claims 19-34 (Canceled)

35. (Currently Amended) A method for treating or preventing demens in a patients patient having Downs syndrome comprising administering to the patient in need thereof an effective amount of a compound according to Claim 1 formula



C2
in which X' means any group or amino acid imparting to the compound of formula (I) the ability to bind to the KLVFF-sequence in β amyloid peptide, or two amino acids imparting the same ability, but with the proviso that one is not proline;

Y' means any amino acid;

Z' means any non-acidic amino acid;

A' means a direct bond or an α -amino acid bonded at the carboxyl terminal of the α -carboxy group or a di-, tri-, tetra- or pentapeptide bonded at the carboxyl terminal of the α -carboxy group;

B' means a direct bond or an α -amino acid bonded at the α -nitrogen or a di-, tri-, tetra- or pentapeptide bonded at the α -nitrogen of the N-terminal α -amino acid;

R₁ is H or -CO-R₃ bonded at the α -amino group of A';

R₂ is H, -OR₄ or NR₅R₆ all bound to the α -carboxyl group of the α -carboxyterminal of B';

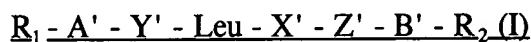
R₃ is a straight or branched carbon chain of 1-4 carbon atoms;

R₄ is a straight or branched carbon chain of 1-4 carbon atoms;

R₅ and R₆ independently are H, alkyl, cycloalkyl, aryl or substituted aryl or together are -(CH₂)_n-, where n is 4-5;

R₁ and R₂ together can form a hydrocarbon ring or heterocyclic ring; and
all the α -amino acids can be either D- or L-isomers.

36. (Currently Amended) A method for treating or preventing hereditary cerebral hemorrhage associated with amyloidosis (Dutch type) comprising administering to a patient in need thereof an effective amount of a compound according to ~~Claim 1~~ formula



in which

CZ
cont X' means any group or amino acid imparting to the compound of formula (I) the ability to bind to the KLVFF-sequence in amyloid β peptide, or two amino acids imparting the same ability, but with the proviso that one is not proline;

Y' means any amino acid;

Z' means any non-acidic amino acid;

A' means a direct bond or an α -amino acid bonded at the carboxyl terminal of the α -carboxy group or a di-, tri-, tetra- or pentapeptide bonded at the carboxyl terminal of the α -carboxy group;

B' means a direct bond or an α -amino acid bonded at the α -nitrogen or a di-, tri-, tetra- or pentapeptide bonded at the α -nitrogen of the N-terminal α -amino acid;

R₁ is H or -CO-R₃ bonded at the α -amino group of A';

R₂ is H, -OR₄ or NR₅R₆ all bound to the α -carboxyl group of the α -carboxyterminal of B';

R₃ is a straight or branched carbon chain of 1-4 carbon atoms;

R₄ is a straight or branched carbon chain of 1-4 carbon atoms;

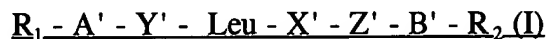
R₅ and R₆ independently are H, alkyl, cycloalkyl, aryl or substituted aryl or together are

-(CH₂)_n-, where n is 4-5;

R₁ and R₂ together can form a hydrocarbon ring or heterocyclic ring; and

all the α -amino acids can be either D- or L-isomers.

37. (Currently Amended) A method for preventing ~~fribal~~ fibril formation of human amyloid protein in a patient in need of ~~such prevention thereof~~ comprising administering to said patient an effective amount of a compound according to ~~Claim 1~~ formula



C2
cont in which

X' means any group or amino acid imparting to the compound of formula (I) the ability to bind to the KLVFF-sequence in amyloid β peptide, or two amino acids imparting the same ability, but with the proviso that one is not proline;

Y' means any amino acid;

Z' means any non-acidic amino acid;

A' means a direct bond or an α -amino acid bonded at the carboxyl terminal of the α -carboxy group or a di-, tri-, tetra- or pentapeptide bonded at the carboxyl terminal of the α -carboxy group;

B' means a direct bond or an α -amino acid bonded at the α -nitrogen or a di-, tri-, tetra- or pentapeptide bonded at the α -nitrogen of the N-terminal α -amino acid;

R₁ is H or -CO-R₃ bonded at the α -amino group of A';

R₂ is H, -OR₄ or NR₅R₆ all bound to the α -carboxyl group of the α -carboxyterminal of B';

R₃ is a straight or branched carbon chain of 1-4 carbon atoms;

R₄ is a straight or branched carbon chain of 1-4 carbon atoms;

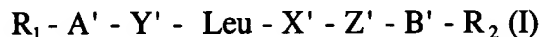
C2
COND R₅ and R₆ independently are H, alkyl, cycloalkyl, aryl or substituted aryl or together are

-(CH₂)_n-, where n is 4-5;

R₁ and R₂ together can form a hydrocarbon ring or heterocyclic ring; and

all the α -amino acids can be either D- or L-isomers.

38. (New) A method for inhibiting polymerization of an amyloid β peptide in a patient in need thereof comprising administering to said patient a therapeutic effective amount of a compound having formula



in which

X' means any group or amino acid imparting to the compound of formula (I) the ability to bind to the KLVFF-sequence in amyloid β peptide, or two amino acids imparting the same ability, but with the proviso that one is not proline;

C3 Y' means any amino acid;

Z' means any non-acidic amino acid;

A' means a direct bond or an α -amino acid bonded at the carboxyl terminal of the α -carboxy group or a di-, tri-, tetra- or pentapeptide bonded at the carboxyl terminal of the α -carboxy group;

B' means a direct bond or an α -amino acid bonded at the α -nitrogen or a di-, tri-, tetra- or pentapeptide bonded at the α -nitrogen of the N-terminal α -amino acid;

R₁ is H or -CO-R₃ bonded at the α -amino group of A';

R₂ is H, -OR₄ or NR₅R₆ all bound to the α -carboxyl group of the α -carboxyterminal of B';

R₃ is a straight or branched carbon chain of 1-4 carbon atoms;

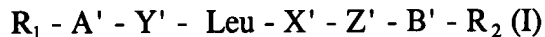
R₄ is a straight or branched carbon chain of 1-4 carbon atoms;

R₅ and R₆ independently are H, alkyl, cycloalkyl, aryl or substituted aryl or together are -(CH₂)_n-, where n is 4-5;

R₁ and R₂ together can form a hydrocarbon ring or heterocyclic ring; and

all the α-amino acids can be either D- or L-isomers.

39. (New) A method for treating or preventing Alzheimer's disease or another disease characterized by amyloidosis in a patient in need thereof comprising administering to said patient a therapeutic effective amount of a compound having formula



C3 cond in which

X' means any group or amino acid imparting to the compound of formula (I) the ability to bind to the KLVFF-sequence in amyloid β peptide, or two amino acids imparting the same ability, but with the proviso that one is not proline;

Y' means any amino acid;

Z' means any non-acidic amino acid;

A' means a direct bond or an α-amino acid bonded at the carboxyl terminal of the α-carboxy group or a di-, tri-, tetra- or pentapeptide bonded at the carboxyl terminal of the α-carboxy group;

B' means a direct bond or an α-amino acid bonded at the α-nitrogen or a di-, tri-, tetra- or pentapeptide bonded at the α-nitrogen of the N-terminal α-amino acid;

R₁ is H or -CO-R₃ bonded at the α-amino group of A';

R₂ is H, -OR₄ or NR₅R₆ all bound to the α-carboxyl group of the α-carboxyterminal of B';

R₃ is a straight or branched carbon chain of 1-4 carbon atoms;

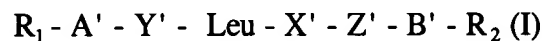
R₄ is a straight or branched carbon chain of 1-4 carbon atoms;

R₅ and R₆ independently are H, alkyl, cycloalkyl, aryl or substituted aryl or together are -(CH₂)_n-, where n is 4-5;

R₁ and R₂ together can form a hydrocarbon ring or heterocyclic ring; and

all the α -amino acids can be either D- or L-isomers.

40. (New) A method for inhibiting polymerization of an amyloid β peptide to a ligand comprising contacting an amyloid β peptide containing environment with a polymerization inhibitory effective amount of a compound according to formula



C3
cont in which

X' means any group or amino acid imparting to the compound of formula (I) the ability to bind to the KLVFF-sequence in amyloid β peptide, or two amino acids imparting the same ability, but with the proviso that one is not proline;

Y' means any amino acid;

Z' means any non-acidic amino acid;

A' means a direct bond or an α -amino acid bonded at the carboxyl terminal of the α -carboxy group or a di-, tri-, tetra- or pentapeptide bonded at the carboxyl terminal of the α -carboxy group;

B' means a direct bond or an α -amino acid bonded at the α -nitrogen or a di-, tri-, tetra- or pentapeptide bonded at the α -nitrogen of the N-terminal α -amino acid;

R₁ is H or -CO-R₃ bonded at the α -amino group of A';

R₂ is H, -OR₄ or NR₅R₆ all bound to the α -carboxyl group of the α -carboxyterminal of B';

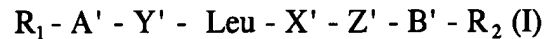
R₃ is a straight or branched carbon chain of 1-4 carbon atoms;

R₄ is a straight or branched carbon chain of 1-4 carbon atoms;

R_5 and R_6 independently are H, alkyl, cycloalkyl, aryl or substituted aryl or together are $-(CH_2)_n-$, where n is 4-5;

R_1 and R_2 together can form a hydrocarbon ring or heterocyclic ring; and
all the α -amino acids can be either D- or L-isomers.

41. (New) A method for inhibiting polymerization of an amyloid β peptide comprising contacting an amyloid β peptide containing environment with a polymerization inhibiting effective amount of a compound according to formula



in which

C3 cont X' means any group or amino acid imparting to the compound of formula (I) the ability to bind to the KLVFF-sequence in amyloid β peptide, or two amino acids imparting the same ability, but with the proviso that one is not proline;

Y' means any amino acid;

Z' means any non-acidic amino acid;

A' means a direct bond or an α -amino acid bonded at the carboxyl terminal of the α -carboxy group or a di-, tri-, tetra- or pentapeptide bonded at the carboxyl terminal of the α -carboxy group;

B' means a direct bond or an α -amino acid bonded at the α -nitrogen or a di-, tri-, tetra- or pentapeptide bonded at the α -nitrogen of the N-terminal α -amino acid;

R_1 is H or $-\text{CO}-R_3$ bonded at the α -amino group of A';

R_2 is H, $-\text{OR}_4$ or NR_5R_6 all bound to the α -carboxyl group of the α -carboxyterminal of B';

R_3 is a straight or branched carbon chain of 1-4 carbon atoms;

R_4 is a straight or branched carbon chain of 1-4 carbon atoms;

C3
cond R₅ and R₆ independently are H, alkyl, cycloalkyl, aryl or substituted aryl or together are
-(CH₂)_n-, where n is 4-5;

R₁ and R₂ together can form a hydrocarbon ring or heterocyclic ring; and

all the α -amino acids can be either D- or L-isomers.
